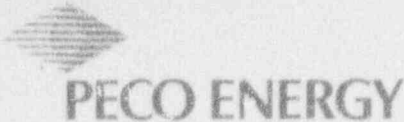


NRCB No. 93-02, Supplement 1
10CFR50.54(f)PECO Energy Company
Nuclear Group Headquarters
965 Chesterbrook Boulevard
Wayne, PA 19087-5891

April 18, 1994

Docket Nos. 50-277
50-278
50-352
50-353License Nos. DPR-44
DPR-56
NPF-39
NPF-85U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555Subject: Peach Bottom Atomic Power Station, Units 2 and 3
Limerick Generating Station, Units 1 and 2
Response to NRC Bulletin 93-02, Supplement 1,
"Debris Plugging of Emergency Core Cooling System
Suction Strainers"

Gentlemen:

This letter provides PECO Energy Company's response to NRC Bulletin (NRCB) No. 93-02, Supplement 1, "Debris Plugging of Emergency Core Cooling Suction Strainers," for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, and Limerick Generating Station (LGS), Units 1 and 2. This letter is being submitted under affirmation in accordance with 10CFR50.54(f), and the required affidavit is attached.

On May 11, 1993, the NRC issued NRCB No. 93-02, "Debris Plugging of Emergency Core Cooling Suction Strainers," to notify licensees of a previously unrecognized contributor to the potential loss of net positive suction head (NPSH) for Emergency Core Cooling Systems (ECCS) during the recirculation phase following of a loss-of-coolant accident (LOCA). Specifically, NRCB No. 93-02 identified concerns that fibrous material in the primary containment suppression pool could accumulate and capture other debris and clog ECCS pump suction strainers which may cause a rapid loss of NPSH for ECCS pumps when they are needed to perform their intended function. The NRC requested that licensees identify fibrous air filters or other temporary sources of fibrous material, not designed to withstand a LOCA, which are installed or temporarily stored in the primary containment. In addition, the NRC requested that licensees take any compensatory measures that may be required to ensure the functional capability of the ECCS and respond to NRCB 93-02 within 30 days by identifying the actions that licensees have taken or propose to take. Accordingly, PECO Energy responded to NRCB 93-02 for PBAPS, Units 2 and 3, and LGS, Units 1 and 2, by letter dated June 9, 1993.

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Subsequently, the NRC issued Supplement 1 to NRCB No. 93-02 on February 18, 1994, to inform licensees about the potential vulnerability of ECCS suction strainers in Boiling Water Reactors (BWRs) and containment sumps in Pressurized Water Reactors (PWRs) to clogging during the recirculation phase following of a LOCA. NRCB 93-02, Supplement 1 specifically requests that, pending final resolution of this issue, BWR licensees take interim actions within 90 days as delineated in the "Actions Requested" section of NRCB 93-02, Supplement 1. These recommended actions focus primarily on operator training and the procedural guidance provided in Emergency Operating Procedures (EOPs). In addition, NRCB 93-02, Supplement 1, requires that all BWR licensees provide a written response within 60 days of the date of this Bulletin as stipulated in the "Reporting Requirements" section of NRCB 93-02, Supplement 1. Each reporting requirement is restated below followed by PECO Energy's response for PBAPS, Unit 2 and 3, and LGS, Units 1 and 2.

Reporting Requirement 1

Within 60 days of the date of this bulletin supplement, [submit] a report indicating whether or not the addressee intends to comply with the actions requested above, description of planned actions, and the schedule for completing them. If an addressee chooses not to take the requested actions, the report shall contain a description of the proposed alternative course of action, the schedule for completing this alternative course of action, and a justification for any deviations from the requested actions.

Response

The EOPs currently in use at PBAPS, Units 2 and 3, and LGS, Units 1 and 2, were prepared in accordance with the guidance specified in Revision 4 of the Emergency Procedure Guidelines (EPGs) developed by BWR Owners' Group (BWROG) Emergency Procedure Committee. The EOPs in use at PBAPS and LGS primarily consist of the Transient Response Implementing Procedures (TRIPs). These EOPs are symptom-oriented and address a full spectrum of initial plant conditions and postulated transients and do not unconditionally prioritize the use of one injection source over another. There are a number of plant systems available for injecting water into the reactor pressure vessel at PBAPS and LGS such as: 1) systems used to control reactor pressure vessel water level during normal plant operating conditions (e.g., Feedwater and Condensate systems), and 2) systems categorized as ECCS (e.g., High Pressure Coolant Injection (HPCI), Low Pressure Coolant Injection (LPCI), and Core Spray (CS) systems). In addition, other plant systems can function as emergency makeup systems at PBAPS and LGS (e.g., Residual Heat Removal Service Water system crosstie) to provide a flowpath for injecting into the reactor pressure vessel. The EOPs at PBAPS and LGS direct Operations personnel to use diverse and redundant systems for controlling reactor pressure vessel water level in the event of plant transients or accident conditions, including a design basis LOCA. These procedures do not instruct operators to rely exclusively on the ECCS pumps, taking suction from suppression pool, for injecting water into the reactor pressure vessel following an accident. The EOPs provide several alternate methods for injecting water into the reactor pressure vessel. Furthermore, these procedures direct operators to throttle ECCS pumps and to initiate containment sprays under certain plant conditions which could delay or mitigate a loss of available NPSH for the ECCS pumps under LOCA conditions.

In addition, there are other symptom-oriented procedures (i.e., Operating Transient (OT) procedures) and event driven procedures (i.e., select Special Event (SE) procedures) that provide additional operator guidance for responding to various situations following plant transients which include the use of alternate injection flowpaths to the reactor

pressure vessel. Furthermore, the procedures currently in place at PBAPS and LGS for responding to various plant transients provide operators with sufficient guidance to ensure appropriate operator response in the event of the loss of ECCS pumps which could occur in the worst case due to a suction strainer clogging event.

These procedures provide appropriate and sufficient guidance; therefore, we do not consider it necessary to revise the existing EOPs at PBAPS and LGS to include additional instruction relative to ECCS pump suction strainer clogging.

Operations personnel will be provided with a "training bulletin" which will specifically discuss the potential vulnerability of the ECCS pump suction strainers to clogging. The operator "training bulletin" will include information regarding operator guidance issued by the BWH Owners' Group on March 15, 1994, pertaining to the potential blockage of ECCS pump suction strainers. This information will be disseminated to the applicable Operations personnel at PBAPS and LGS for review by April 30, 1994. In addition, a "training bulletin" will be issued to the appropriate Emergency Response Organization (ERO) personnel to inform individuals of the potential blockage of ECCS pump suction strainers following a LOCA. This "training bulletin" will be issued to the appropriate ERO personnel by May 31, 1994.

Licensed operator requalification training at PBAPS and LGS will be updated to include specific training on the potential vulnerability of ECCS pump suction strainers to clogging following a LOCA. This training will include discussions regarding this Bulletin supplement, and the appropriate operator actions to be taken should this condition occur. The operator training at PBAPS and LGS will be performed during the next cycle of licensed operator requalification training currently scheduled to be completed by April 29, 1994, at LGS, and by May 27, 1994, at PBAPS. In addition, simulator training at PBAPS and LGS currently includes scenarios specifically designed to exercise the EOPs pertaining to the use of alternate injection flowpaths for maintaining adequate reactor pressure vessel water level.

Since the EOPs at PBAPS and LGS provide adequate operator guidance, and Operations personnel will receive specific training regarding the potential vulnerability of the ECCS pump suction strainers to clogging during the recirculation phase following a LOCA, we do not consider further actions necessary at this time. PECO Energy is actively involved in the BWROG activities to resolve the potential ECCS suction strainer clogging concern. We will continue to evaluate this issue and follow the developments of the BWROG and take steps, as appropriate, to ensure ECCS capability pending resolution of this issue.

Reporting Requirement 2

Within 30 days of completion of the requested actions, [submit] a report confirming completion.

Response

A report, confirming completion of the actions identified above, will be submitted within 30 days after completing the actions at PBAPS and LGS.

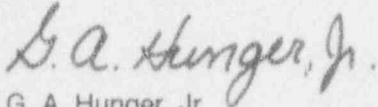
As requested in NRCB 93-02, Supplement 1, PECO Energy offers the following information concerning the time and costs associated with responding to this Bulletin supplement.

- 1) The time and costs associated with performing procedure reviews involved approximately 40 man-hours at an estimated cost of \$2000.

- 2) The time and costs associated with preparing the requested report and documentation involved approximately 20 man-hours at an estimated cost of \$1000.

If you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,



G. A. Hunger, Jr.
Director
Licensing Section

Attachment

cc: T. T. Martin, Administrator, USNRC, Region I (w/ attachment)
N. S. Perry, USNRC Senior Resident Inspector, LGS (w/ attachment)
W. L. Schmidt, USNRC Senior Resident Inspector, PBAPS (w/ attachment)

COMMONWEALTH OF PENNSYLVANIA

:


: ss.

COUNTY OF CHESTER

:

W. H. Smith, III, being first duly sworn, deposes and says:

That he is Vice President of PECO Energy Company; the Applicant herein; that he has read the foregoing response to NRC Bulletin 93-02, Supplement 1, "Debris Plugging of Emergency Core Cooling Suction Strainers," for Limerick Generating Station, Units 1 and 2, and Peach Bottom Atomic Power Station, Units 2 and 3, and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information, and belief.



Vice President

Subscribed and sworn to

before me this 18th day

of April 1994.



Notary Public

Notarial Seal
Erica A. Santon, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires July 10, 1995